



Nutrition for Pregnancy

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Why does nutrition matter?

Well-nourished women have healthier pregnancies, and give birth to healthier babies, who will grow into healthier adults. Plus, developing good habits now and sticking to them can improve your health for a longer, more disease-free life. On the other hand, very poor nutrition in pregnancy is associated with birth defects, increased miscarriages, increased still birth, and an increase in low birth weight babies, who may be at higher risk for life-long health problems, including heart disease, diabetes, and high blood pressure.

Overall Guidelines: A Few Good Ideas

Don't feel like you have to be perfect all the time, just do the best you can each day. Some days it may be hard to get the healthy food you need. Try to think about it this way: every time you're making a decision about what to eat, just make the best possible choice in the moment.

Eat small frequent meals. Eating 5 small meals a day, or 3 meals and 3 snacks, helps to keep your blood sugar levels balanced all day, which helps with morning sickness in the first trimester. In the third trimester, you'll have less heartburn and indigestion.

Water and other beverages: only drink small amounts at meals (helps reduce heartburn), but be sure to drink a lot between meals. Every day, try to drink a half ounce of fluid for every pound you weigh.

Choosing Fruits and Veggies: Organic food is better, to minimize your intake of chemicals and preservatives. Fresh fruits and vegetables are best – the more recently they were picked, the more nutrients they have. If you can't get fresh, frozen is next best, and then canned (but watch for extra sugars and salt in the canned varieties. But plan to have some frozen and canned fruits and vegetables in the house all the time, so you always have a supply on hand.

Most fruits and veggies are best eaten raw. If you cook them, then to preserve the most health benefits, best to worst choices for cooking method are: steam, microwave, stir-fry, bake, then boil.

Whole foods are best, then simple recipes made at home, then prepared foods with long lists of ingredients. For example, an apple is better than apple juice, because the apple contains fiber. 100% apple juice is better than a carbonated drink with 10% fruit juice and a lot of high fructose corn syrup. Another example would be plain cooked oatmeal with fresh fruit versus instant oatmeal with dried fruit versus an oatmeal cereal bar held together with sugary syrup and preserved to sit on the shelf for months.

Minimize refined sugars & saturated fats. Avoid junk food in general, although occasional indulgence is fine.

Prenatal vitamins. Ask your care provider about prenatal vitamins. Most doctors and midwives recommend a daily multivitamin to guarantee you get your required nutrients. (This may be especially important for women who are underweight, have poor eating habits, avoid many kinds of food, or abuse drugs or alcohol.) But don't use vitamins as an excuse for eating poorly.

Food Pyramid – Recommended Servings

Calculated based on second trimester calorie needs of 2600 calories per day for an "average" first time mom, who is (Based on CDC data): 5'4" 160 pounds, 25 years old. Exercises 30 – 60 minutes per day. (For recommendations customized to your height, weight, stage of pregnancy, activity level, go to www.mypyramid.gov/mypyramidmoms/index.html) [Note: Canada has a slightly different food guide. Get your customized recommendations at www.hc-sc.gc.ca/fn-an/index_e.html]

Calorie intake should be divided between the food groups:

Whole-grains or Enriched Breads/Cereals — any food made from wheat, rice, oats, cornmeal, barley, rye. Contain iron, B vitamins, minerals, fiber, some protein. Some are fortified with the folic acid you need in early pregnancy.

How many servings a day? 9 ounces

Serving Size: What counts as one ounce serving? 1 slice bread, 1/2 cup of cooked cereal, rice, or pasta, 1 cup ready-to-eat cereal, 1 tortilla, 1 pancake, 1 baked potato, half bagel, crackers – check label for serving size.

Make half your grains whole: Whole grains contain the entire grain, refined grains have been processed. The processing makes for a finer, less chewy texture, but it removes fiber, B vitamins, iron, and protein. Often, refined grains are then enriched, which means B vitamins (thiamin, riboflavin, niacin, and folic acid) and iron are added back in, but the fiber is not added back in.

Whole grains include: brown rice, oatmeal, popcorn, barley, millet, quinoa, buckwheat, bulgur, wild rice. Some prepared foods, if the ingredients say whole grain. Whole wheat bread, whole wheat crackers, whole grain cornmeal, etc.

Refined grains include: white rice, white flour, most prepared foods (bread, tortillas, noodles, pretzels, cereal, grits, couscous, muffins, pastries).

Vegetables - Rich sources of fiber, vitamins, and minerals. Green leafy veggies have vitamin A, iron, and folate.

How many servings a day? 3.5 cups

Serving size: What counts as a one cup serving of vegetables? Generally, 1 cup of raw or cooked vegetables, 2 cups of raw leafy vegetables (e.g. lettuce), 3/4 cup vegetable juice.

Vary your veggies: Different vegetables have different nutrients. In order to be sure you and baby get all the nutrients you need, eat a variety. In a week, you should have 3 cups dark green veggies, 2.5 cups orange veggies, 3.5 cups of dried beans and peas, 7 cups starchy, and 8.5 cups of other vegetables.

Dark green vegetables include: bok choy, broccoli, greens (collard, mustard, turnip, kale), lettuce (dark green leafy lettuce and romaine), spinach, watercress.

Orange vegetables: carrots, pumpkin, squash, sweet potatoes, yams

Dried beans and peas (legumes): black beans, black-eyed peas, garbanzos/chickpeas, kidney beans, lentils, pinto beans, soybeans and soy products,

split peas, white beans (these also count in the “meats and beans” category as protein sources)

Starchy: corn, green peas, potatoes

Other: artichokes, asparagus, beets, Brussels sprouts, cabbage, cauliflower, celery, cucumbers, eggplant, green beans, mushrooms, okra, onions, peppers, tomatoes, vegetable juice, turnips, zucchini

For tips on incorporating more veggies into your diet:

www.mypyramid.gov/pyramid/vegetables_tips.html

Fruits – rich in fiber, helps avoid constipation; rich in potassium, vitamin C, folate; low in fat, sodium, calories.

How many servings a day? 2 cups

Serving size: What counts as one cup of fruit? 1 cup of chopped fruit, 1 apple, 1 banana, big handful of grapes or berries, 1 cup of 100% fruit juice.

Focus on fruit: Eat a variety of fruits. Buy fresh local fruits in season, when they are cheapest and at their peak flavor. Select canned fruits that do not have extra sugar added. Dried fruits make a great snack to carry around with you. Some women feel better if they always eat protein when they eat fruit, so consider spreading peanut butter on apple slices, or having yogurt with fruit, or a salad with apples, celery, and walnuts, or a fruit smoothie made with yogurt or milk.

Dairy Products — provide calcium you and baby need for strong bones. Good sources of protein, potassium, vitamin A and D, and B vitamins. Low fat or skim milk products are best, to lower your saturated fat intake.

How many servings a day? 3 cups

Serving size: What counts as a one cup serving? 1 cup of milk or yogurt or cottage cheese, 1½ ounces of natural cheese (a 1½ inch cube of cheese), or 2 ounces of processed cheese. You may also enjoy foods made with milk, such as cream soups, custard, pudding, and ice cream.

If you are lactose intolerant, try taking several small servings of dairy a day – your body may tolerate this better than large servings, or choose lactose-free milk, hard cheeses, yogurt, or take a lactase enzyme before eating dairy products.

If you choose not to consume milk products, other sources of calcium include canned fish, dark green leafy vegetables, dried beans, nuts and seeds, tofu and other soy products, and calcium fortified juice, soy or rice milk. Your care provider may recommend supplements such as calcium, vitamin D, potassium, and magnesium.

Meats, fish, and beans – contain protein. You need 60-80 grams of protein a day. Protein builds muscles, skin, enzymes, hormones and antibodies. These foods also contain B vitamins (niacin, thiamin, riboflavin, and B6), vitamin E, iron, zinc, and magnesium.

How many servings a day? 7 ounces

Serving size: What counts as a one ounce serving? 1 ounce of meat, poultry or fish, ¼ cup cooked dry beans, 1 egg, ½ cup tofu, ¼ cup of nuts or seeds, 1 tablespoon of peanut butter

Tips for meat: Use good food safety practices (see below). To minimize saturated fat: choose the leanest cuts of meat, trim away extra fat, and drain off the grease after cooking. For prepared meats, check the label for excess salt and fat; also be aware of listeriosis risk.

Tips for fish: Be aware of mercury issues (see below) and use good food safety practices. Look for fish high in omega-3, such as salmon, trout, or herring.

If you choose not to eat meat or fish: You can get the protein you need from eggs, dairy, beans, nuts, seeds, and tofu. You may not get enough iron, calcium, vitamin B12 or zinc, unless you closely monitor the intake of those nutrients. Ask your care provider or a dietician if any supplements are recommended. If you are vegan, and eat no animal products, daily supplements of at least 1 µg of vitamin b12 are typically recommended.

Discretionary calories – The serving recommendations above assume that you are choosing only low-fat options with no added sugar. You may use your discretionary calories allowance of 410 calories for adding fats or sweeteners to food (e.g. salad dressing, sauces or gravies, sugar, syrup, butter); to eat more foods from any of the food groups, eat higher-fat or higher-sugar foods (e.g. whole milk, sweetened cereal, sweetened yogurt); or eat or drink items that are mostly fats or sugars, such as candy, chips, or soda.

Fats / Carbs / Protein / Fluids

Division of Calories: Over the course, of a day, you should get 20 - 30% of your calories from fat, 45 – 70% from carbohydrates, and 15 – 25% from protein. To calculate how these percentages translate into grams for the amount of calories you eat each day, go to http://www.freedieting.com/tools/nutrient_calculator.htm

Fats

How much: Your total fat intake should be no more than 30% of your diet. That's less than 87 g/day for a 2600 calorie diet. Of those calories, you should be certain that a maximum of 10% of your calories are coming from saturated fats (28 g), and you should eat as few trans-fats as possible.

It is essential to have some healthy fats in your diet, for you and your baby's well-being. However, it is important to know the difference between healthy fats and unhealthy fats.

Benefits of good fats: Fats are an essential part of your cell membranes, and cells can't function well without healthy membranes. Fats make up 60% of the brain, and help with baby's brain growth, building myelin – the fatty sheath that insulates nerve fibers. Fats help the body absorb vitamins A, D, E, and K, and regulate the production of some hormones. Essential fatty acids lower the risks of some forms of cancer, improve attention span and cognitive function, lower the risk of heart disease, and promote healthy skin.

Problems with bad fats: Can elevate cholesterol levels, reduce ability to produce prostaglandins, may be linked to other health problems (obesity, diabetes, heart disease).

Grading the fats, from best to worst type of fat:

A - omega 3 fatty acids, B - monounsaturated fats, C - polyunsaturated fats, D - saturated fats, F - hydrogenated fats / trans-fatty acids

Rating the fats from best to worst, based on the source of the fat

#1 - fats from plants and seafood, #2 - fats from animal sources, #3 - fats from factories (hydrogenated/trans-fats)

Examples:

Healthiest Fats: Flax oil, fish (especially salmon and tuna).

Next best: Canola oil, soybeans, walnuts, seeds (sunflower and pumpkin), olive oil, peanuts, hummus, wheat germ, safflower, sunflower, and corn oil.

Okay in moderation: fat from dairy products (yogurt, milk, butter), eggs, meats, cocoa butter

Avoid when possible: lard, palm kernel oil, coconut oil, hydrogenated or partially hydrogenated oils, margarines, shortening. Avoid deep-fried foods, or at least choose restaurants that do not use trans-fats.

Carbohydrates / Sugars

How much: Carbohydrates can make up 45 – 70% of your total calories, 300 – 450 grams per day in a 2600 calorie diet. (As a general reference, for the carbohydrate foods listed in the food recommendations above, one serving equals 15 grams of carbohydrates. For example, one slice of bread = 1 serving of bread = 15 grams carbohydrates.)

Complex vs. Simple: Carbohydrates are our major source of energy. The majority of your intake should be complex carbs (aka “starches”). Less than 10% of your total calories should be simple carbs (aka “sugars”). Excess sugar may lead to tooth decay, obesity, decreased immune function, increased kidney stones, diabetes, and osteoporosis.

Complex carbs include: whole grains, legumes, starchy vegetables, citrus fruits

Simple carbs include: fructose (fruits and vegetables), lactose (milk and milk products), sucrose (sugars).

Grading sugars from best to worst (based on glycemic index – how much of a rise it causes in blood sugar level)

A - fructose in fruits and vegetables, sugar alcohols (sorbitol, xylitol, mannitol); B - lactose in milk products; C - less refined sugars: honey, molasses, maple syrup, date sugar, fruit juice concentrate; D - refined sugar. (table sugar, brown sugar, turbinado, corn syrup, glucose syrup); F -high fructose corn syrup.

Artificial Sweeteners

Splenda (sucralose); Equal / Nutrasweet (aspartame), Sweet’N Low (saccharin), acesulfame K, and neotame are all FDA approved for pregnant and breastfeeding women. You should avoid aspartame if you have phenylketonuria, or PKU

[More about sweeteners.](#)

Fluids

How much: A half ounce a day for every pound you weigh. So, if you weigh 150 pounds, that’s 75 ounces a day. Count water, milk, juices, soups, and decaffeinated drinks toward the total. Don’t count caffeinated drinks, as caffeine is a diuretic, which means your body will pee out the water more quickly. You can tell you’re drinking enough fluid is you’re going to the bathroom often, and your urine is pale or colorless.

Why you need fluids: Fluids help deliver nutrients to baby and help baby excrete wastes. For you, they help move toxins and waste products through, helping you avoid constipation. They also help dehydration, which can lead to preterm labor.

Will drinking that much mean you need to go to the bathroom even more often or swell up even more?? In early pregnancy, it’s the hormones that make you need to urinate so often, and in late pregnancy, it may be the weight of baby on your bladder. Drinking plenty of water helps to give your body plenty to pee out on each of these trips, which reduces your risk of urinary tract infections. Water also doesn’t cause swelling; actually, getting plenty of water helps keep you from retaining too much in your tissues.

Tips for drinking enough: You may find it easier to drink plenty of fluids if you find your favorite way to drink water. Do you like it over ice? Or at room temperature? From a glass, from a water bottle, or through a straw? With a little lemon juice

squeezed in? (Note: If your tap water tastes chlorinated when you first pour it, fill your water bottle in advance, and let it sit for 8 hours, and that taste will dissipate.) *Bottled water*. Many people believe that bottled water is safer for them (and their babies) than tap water. However, in the United States, our municipal water systems are tightly regulated and monitored, and are quite safe. The standards for contaminants in bottled water and tap water are very similar. If you have questions about the safety of your local tap water, contact your water company and ask for their annual quality report.

Bottled water may be lacking in healthy minerals like calcium and iron which have been filtered out, it usually does not have the added fluoride that your community water typically has, and may have absorbed phthalates (potentially harmful chemicals) from the plastic water bottle.

About 25% of bottled water is just tap water in a bottle – the label may say “from a municipal source” or “from a community water system”. So, in general, there is no need to buy bottled water in pregnancy.

Recommended Nutrients

For a chart showing recommended daily allowances of all vitamins and minerals during pregnancy, go to

Dietary Reference Intakes: Recommended Intakes for Individuals. 2004. National Academy of Sciences, Institute of Medicine, Food and Nutrition Board.

www.iom.edu/Object.File/Master/21/372/0.pdf and [here](#)

Weight Gain

Suggestions for weight gain are basic guidelines. Many women gain more or less than recommended amounts, and they and their babies do fine.

However, there are some potential problems with weight gain: Women who gain too little weight during pregnancy are at increased risk of having anemia, premature rupture of membranes, and a low-birthweight baby. Women who gain too much are at increased risk of premature labor, large babies, gestational diabetes, and high blood pressure. It’s also harder to lose the extra weight after pregnancy. So, it is best to aim for something near the recommended gain.

How much weight gain is recommended depends on what you weighed before you got pregnant.

First, calculate pre-pregnancy BMI. Figure out your pre-pregnancy Body Mass Index, which compares your weight to your height. The metric formula for BMI is to divide your weight in kilograms by your height in meters squared. $BMI = \text{kg}/\text{m}^2$. The formula for inches and pounds is to multiply your weight in pounds by 703, then divide by your height in inches. $BMI = (\text{lbs} * 703) / \text{inches}^2$. Or, if you prefer, use one of the many BMI calculators available online. Try www.nhlbisupport.com/bmi/
Recommendations:

If you began pregnancy at a normal weight (BMI 19 – 24.9), you should gain 25-35 pounds during pregnancy. Most women gain 2 – 6 pounds in the first trimester, and average up to a pound a week for the rest of pregnancy. (If you’re pregnant with twins or more, see below)

If you began pregnancy underweight (BMI<19), it is typically recommended that you gain 28 – 40 pounds during the pregnancy.

If you began pregnancy overweight (BMI>25), only gain 15 – 25 pounds. Do not try to lose weight during pregnancy. If you restrict your diet in pregnancy, baby may not get enough protein, vitamins, and minerals. [Note, some recent studies may indicate that women who began pregnancy overweight may not even need to gain this much weight.]

Nutrition for Twins or More

For twins, gain 35 – 45 pounds, taking in 600 extra calories a day, and increase prenatal vitamin dosages by 50%. For higher order multiples, ask your care provider's advice.

It's important for you to gain weight early in pregnancy. Try to put on a pound a week from the beginning of pregnancy. Gaining at least 24 pounds by the 24th week helps reduce the risk of preterm birth, and low birthweight babies.

Food Safety

Keep things clean: wash hands thoroughly with warm water and soap, before and after handling food. Wash cutting boards, dishes, utensils, and countertops with hot water and soap. Rinse raw fruits and vegetables thoroughly under running water.

Separate raw meat, poultry and seafood from ready-to-eat foods. In grocery cart, and refrigerator, store these in sealed plastic bags. Wash cutting boards, knives, and plates that have come in contact with raw meat, poultry or seafood before you use those utensils for any other purpose. When you are working with raw meat, do not touch your hands to your face.

Cook foods thoroughly. Buy a meat thermometer, and use the guidelines from a cookbook on how long to cook meats and fish.

Store foods well: Refrigerator should be set at 35 – 40 degrees, freezer at 0 to 4 degrees. Clean the insides of your refrigerator regularly, dispose of all food that is past its expiration date.

For foods that are prone to spoilage, use the 2 hour rule: discard foods left out at room temperature for more than 2 hours.

Be smart about take-out foods: eat hot foods as soon as possible after purchasing. Eat cold foods within two hours. If you bring home leftovers from a restaurant, refrigerate within an hour, and eat within 2 days. If you have food delivered, eat within 2 hours, or keep it hot in the oven (temperature set at 200° F (93° C).

For lots more on food safety, see www.cfsan.fda.gov/~pregnant/pregnant.html

Things to Avoid

There are a few forms of bacteria and environmental contaminants that pregnant women are especially susceptible to, and which can harm developing babies. It is important to be aware of them, and do what you can to prevent exposure. However, it is not something to be overly frightened of, as the chance of becoming ill is small.

Listeriosis is a harmful bacteria that can grow in certain foods, even at refrigerator temperatures. It can cause miscarriage, premature labor, low birth weight, or infant death. Listeriosis effects 3 out of a million people in the U.S., but 30% of those effected are pregnant, as pregnant women are more susceptible.

To reduce your risk, do not eat soft cheeses such as feta, brie, camembert, blue-veined cheeses, queso blanco, and queso fresco, unless they're labeled as being made with pasteurized milk. Do not drink raw (unpasteurized) milk.

Do not eat raw fish, especially raw shellfish (clams and oysters). May contain harmful parasites and bacteria.

Do not eat refrigerated smoked seafood (such as nova-style lox salmon, kippered fish, smoked fish, or jerky) unless you cook it first.

Do not eat refrigerated pâtés or meat spreads.

Heat hot dogs and luncheon meats (e.g. ham, turkey, bologna, salami) until steaming hot before eating.

It's OK to eat foods that contain pasteurized milks, cooked fish, shelf stable smoked seafood, and canned pâtés and meat spreads.

Salmonella is a bacteria which is estimated to cause 1.4 million illnesses a year in the United States; 75% of those cases are due to eggs. It is estimated that there are 4 illnesses per million servings of eggs. Salmonella can cause abdominal pain, diarrhea, vomiting, and stillbirth.

To reduce your risk of salmonella, do not eat undercooked or raw eggs; unpasteurized juices, or raw vegetable sprouts, including alfalfa, clover, radish and mung bean.

It's OK to eat cooked eggs, and if you like foods with undercooked eggs (homemade eggnogs, hollandaise sauce, etc) you can buy pasteurized eggs or egg products to make them with. It's OK to have pasteurized juices (98% of the juice sold in the US is pasteurized – if it's not, it should have a warning label.)

Toxoplasmosis is a harmful parasite found in undercooked meat, unwashed fruits and vegetables. A baby born with toxoplasmosis can develop hearing loss, mental retardation, or blindness. (Effects 400-4000 children per year in US.)

To reduce your risk, cook all meats completely, wash all fruits and veggies, and wash hands with soap or water after handling dirt, cat litter, or uncooked meats.

Mercury / methylmercury. Can harm baby's developing brain and nervous system. It's found in large, long-lived fish. However, fish is also a great source of essential nutrients, so it is better to have low mercury fish in moderation than to give up fish completely.

High mercury fish to avoid completely: shark, tilefish, king mackerel, swordfish. The American Pregnancy Association also recommends avoiding grouper, marlin, and orange roughy.

Limit to 6 ounces per week: halibut, snapper, lobster, mahi mahi, tuna (albacore/white tuna has more mercury than light tuna).

Up to 12 ounces a week of fish that are lower in mercury (The starred items below are highest in omega-3 fatty acids): anchovies*, catfish, clams, cod, crab, flounder, herring*, oysters, Pollock, salmon*, sardines*, scallops, shrimp, sole, tilapia, trout*. To learn about mercury levels in locally caught fish, consult your local health department. For a full list of fish, see

www.americanpregnancy.org/pregnancyhealth/fishmercury.htm

Caffeine. The majority of research indicates that one to two servings a day appears to be safe in pregnancy. However, a recent study (Li, 2008) indicated that two servings (200 mg) a day in early pregnancy significantly increased the risk of miscarriage. Caffeine in large quantities can cause irritability, nervousness, and insomnia, and caffeine is a diuretic which makes you have to urinate more often. Most caffeine to least caffeine per serving: energy drinks, espresso, brewed drip coffee (85 mg caffeine), instant coffee, black tea, caffeinated soft drink, dark chocolate, semi-sweet chocolate, milk chocolate. Some non-prescription medications also include caffeine.

Pre-Conception Health

If you are not yet pregnant, but are planning a pregnancy, your nutrition now can have a big impact on how healthy your pregnancy and your baby will be.

Pre-pregnancy weight: Ideally, before pregnancy, your BMI (body mass index) should be between 20 and 26. If you are underweight, it may be harder to conceive.

If you are overweight or obese (BMI over 30), then it may be harder to conceive; you have a higher risk of gestational diabetes, pregnancy induced high blood pressure, complications during pregnancy and birth, and cesarean delivery; your baby is more likely to be big, have birth defects, and experience childhood obesity. So, do what you can to reach a healthy weight, and maintain that weight prior to becoming pregnant.

Important nutrients: If you are planning a pregnancy, it is important to consume 400 µg of folic acid per day. Other helpful nutrients to focus on to improve fertility and preconception health are: magnesium, zinc, vitamin D, and vitamin B12.

What to avoid: When you are trying to become pregnant, avoid smoking, drinking alcohol, drinking excessive caffeine, or taking drugs. Avoid chemical exposures such as solvents, fumes, chemicals, and radiation.

Morning sickness

Here are some tips for preventing and managing nausea in early pregnancy:

Protein: Try to have some protein with every meal and snack. Make sure you're getting 60 – 80 grams a day total. Avoid fatty foods, and fried foods.

Meal times: Eat several smaller meals, instead of 3 big meals a day. This helps maintain a stable blood sugar level all day.

Fluids: Don't drink a lot with meals, as this can worsen nausea. Do drink between meals.

Temperature: Some women do best when everything they eat or drink is room temperature, and they feel bad anytime they have too hot or too cold.

Smells: Identify and avoid odors that make nausea worse. Aromatherapy: Carry a bottle of peppermint oil – smell it to reduce nausea. Slice a lemon and smell that.

Peppermint tea is a huge help - having a cup every morning may help settle things down for the day

Ginger - Try candied ginger, pickled ginger, ginger tea, real ginger ale.

Supplements: Ask your care provider about taking vitamins B6 and thiamine to reduce nausea. Some women find that certain prenatal vitamins worsen their nausea. If this is true for you, ask your care provider to recommend another brand.

Acupuncture or acupressure. The acupressure wrist bands for motion sickness are helpful for some people.

High blood pressure in Pregnancy

Approximately 5% of women experience pregnancy induced hypertension (also known as PIH, pre-eclampsia or toxemia). If this condition is untreated, it can cause premature labor, intrauterine growth retardation, stillbirth, and other complications.

Risk factors: these factors make it more likely that you will have high blood pressure. Family history of PIH, under 20 or over 35 years old, low income, African American, diabetic, pregnant with twins or more.

Prevention: There is no guaranteed way to prevent PIH, but all of these may help. Drink plenty of fluids, get enough rest, minimize stress, exercise regularly, avoid alcohol and caffeine. Eat healthy. Several nutrients have been recommended for reducing the risk of PIH, or reducing the severity. So far, research hasn't supported their effectiveness; however, if you're at high risk, it can't hurt to be certain your diet includes healthy amounts of these nutrients: protein, calcium, magnesium, zinc, vitamin C and E, and omega 3 fatty acids.

Diabetes in Pregnancy

Approximately 7% of the US population has diabetes type 1 or 2, and 4-7% of women develop gestational diabetes during pregnancy. If blood glucose levels are

poorly controlled, pre-existing diabetes is associated with birth defects, prematurity, and stillbirth. Gestational diabetes increases the chance of an overly large baby, and the chance of cesarean birth.

Risk factors: family history of diabetes, having pre-diabetes, obesity, having given birth previously to a baby weighing 9 pounds or more, polycystic ovary syndrome, and being of African, Asian, or Hispanic descent.

Pre-conception: Get your diabetes under control before you get pregnant. Try to keep blood sugar under control for 3 to 6 months before getting pregnant. Start an exercise plan, and get in healthy condition before becoming pregnant.

During pregnancy: Whether you have diabetes, or are at high risk for diabetes, you can follow these recommendations. Count your carbohydrates. A maximum of 40% of your calories should come from carbohydrates, and complex carbs are much better for you than simple carbs. Avoid concentrations of more than 30 – 45 grams of carbs at the same meal. Keep fat under 30% of your calories, and increase your protein intake to 75 – 100 g of protein. Exercise will also help. Eat at the same times every day; several small meals to keep blood glucose stable

Lots of helpful tips here:

http://nutritioncaremanual.org/files/PE06_gestational_diabetes.final.pdf and http://www.plus-size-pregnancy.org/gd/gd_nutrition.htm

Resources for Low Income Women

WIC (Women, Infants, and Children) – provides supplemental food and nutrition education to low income families (those whose income is at 100 – 185% of poverty level, depending on the state.) To find out if you're eligible, go to

www.fns.usda.gov/wic

Food Stamps – can be used to purchase food. For low income families. To find out if you're eligible, go to www.fns.usda.gov/fsp

Food Banks – there may be a local food bank where you could get supplemental foods. Check your phone book or search online.

Sources:

Recommended websites for expectant parents:

www.modimes.org March of Dimes. Lots of helpful advice on healthy lifestyles in pregnancy, and prevention of birth defects and preterm birth.

www.mypyramid.gov/ and www.mypyramid.gov/mypyramidmoms/index.html

Customized food pyramid, which recommends number of daily servings from each food group, based on your size and activity level.

<http://www.cfsan.fda.gov/~pregnant/pregnant.html> FDA on food safety.

www.4woman.gov/pregnancy/pregnancy/eat.cfm Government recommendations on what to eat while pregnant.

Scholarly / Detailed recommendations

Ladipo, O. (2000) Nutrition in Pregnancy: mineral and vitamin supplements.

American Journal of Clinical Nutrition, 72(1): 280S. Available at

<http://www.ajcn.org/cgi/reprint/72/1/280S>

Dietary Guidelines for Americans, 2005. U.S. Department of Health and Human Services, U.S. Department of Agriculture.

<http://www.health.gov/dietaryguidelines/dga2005/document/pdf/DGA2005.pdf>

www.healthierus.gov/dietaryguidelines

Nutrition for a Healthy Pregnancy - National Guidelines for the Childbearing Years.

Health Canada 1999 (will be updated in 2009): click [here](#).

Dietary Reference Intakes: Recommended Intakes for Individuals. 2004. National Academy of Sciences, Institute of Medicine, Food and Nutrition Board.
www.iom.edu/Object.File/Master/21/372/0.pdf and [here](#)
Position of American Dietetic Association. Nutrition and lifestyle for a healthy pregnancy outcome Includes list of herbs and supplements that may not be safe.
www.eatright.org/cps/rde/xchg/ada/hs.xsl/advocacy_3773_ENU_HTML.htm

Other websites used:

http://www.wholistichealthworks.com/nutrition_in_pregnancy.htm
www.nutrition.gov links to lots of helpful websites
<http://askdrsears.com/html/4/T041300.asp> Info about fats.
<http://www.wombecology.com/preeclampsia.html> - Michel Odent on nutritional factors related to pre-eclampsia
<http://www.vrg.org/nutrition/pregnancy.htm> - vegan nutrition
<http://www.asrm.org/Patients/patientbooklets/multiples.pdf> "Multiple Pregnancy and Birth: A Guide for Patients" ASRM
<http://www.med.nyu.edu/patientcare/library/article.html?ChunkIID=35552> On prevention of pregnancy induced hypertension.
Nutrition Fact Sheets:
www.eatright.org/cps/rde/xchg/ada/hs.xsl/nutrition_350_ENU_HTML.htm#Vitamins

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For more information on pregnancy:
See our books: Pregnancy, Childbirth & the Newborn or The Simple Guide to Having a Baby.
Take a childbirth preparation class at Great Starts, or in your local community.

For parenting tips, information for families, or to talk to someone about parenting:
In Washington State: Call the Family Help Line at 1-800-932-HOPE
Outside of WA: contact your local Circle of Parents agency at www.circleofparents.org